

North Carolina State Laboratory of Public Health

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Director



NC DEPARTMENT OF
**HEALTH AND
HUMAN SERVICES**

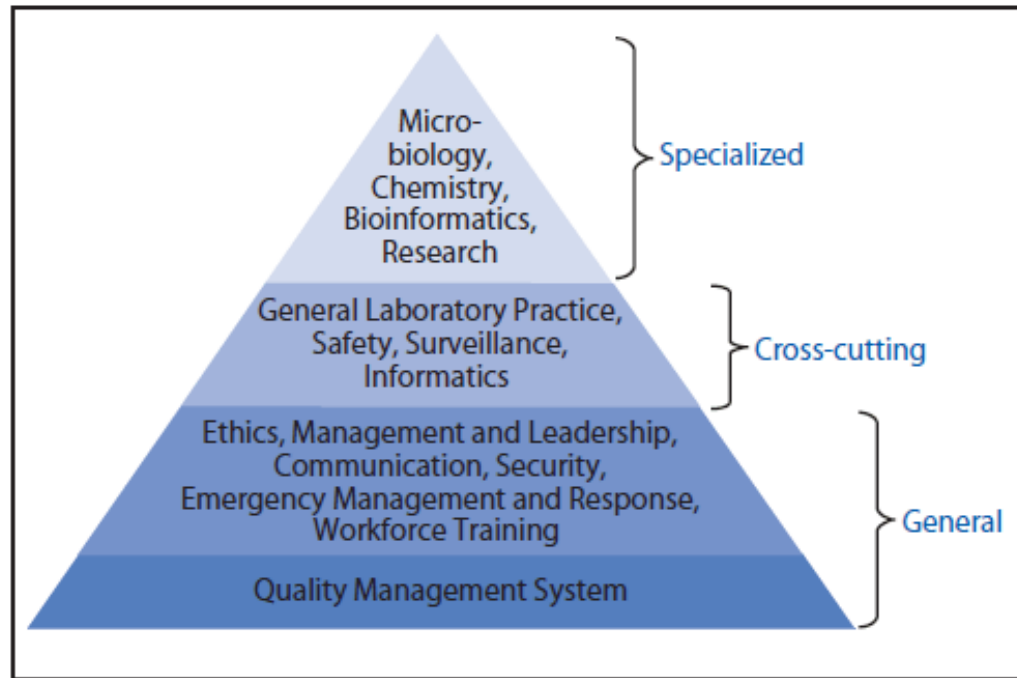
Division of Public Health
State Laboratory of Public Health

North Carolina State Laboratory of Public Health



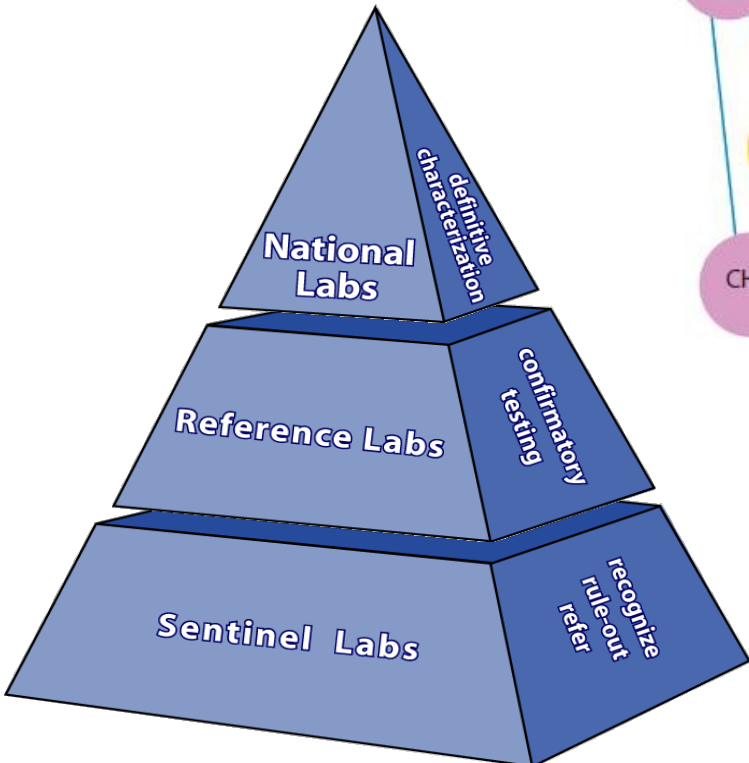
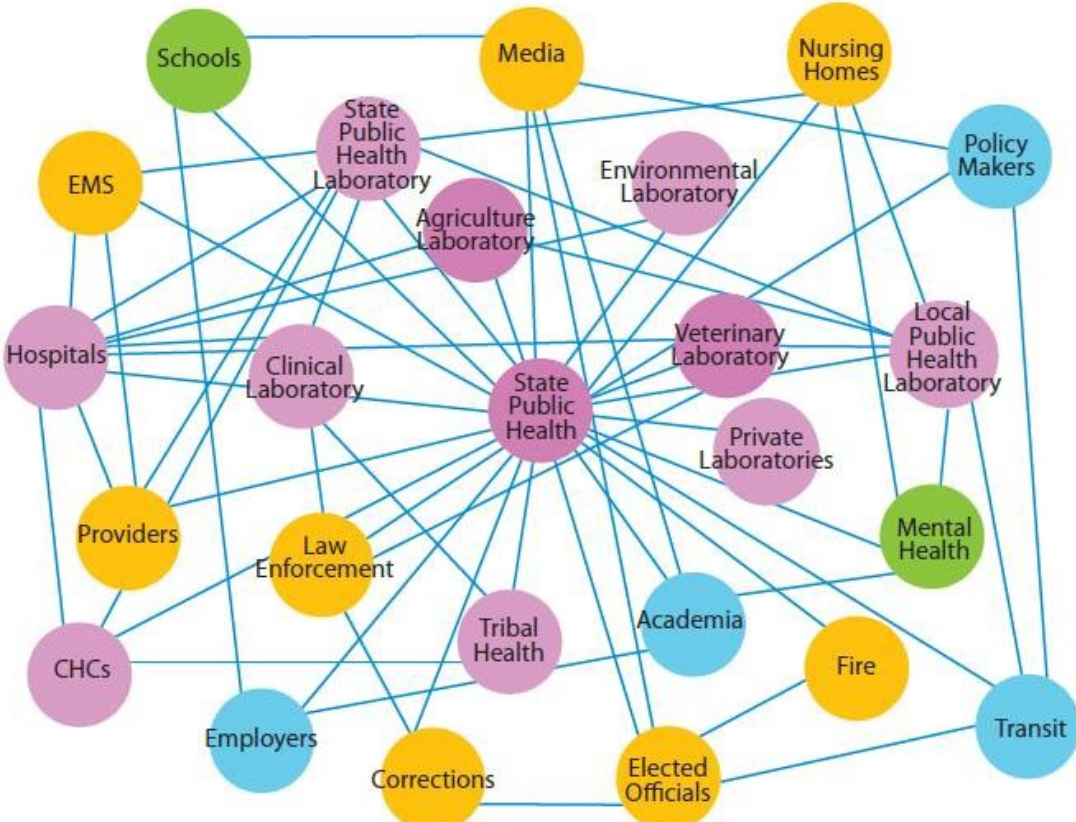
- **Medical and environmental laboratory testing, certification, and training services**
- **Services and testing offerings are shaped by regulatory requirements (federal and state) and PH practice**
 - 125 clinical and 65 environmental tests
 - >700K specimens
- **200+ staff positions within 9 units, pre-analytical services, and administrative staff**
 - Virology/Serology
 - Clinical & Reference Microbiology
 - Molecular Epidemiology
 - Bioterrorism and Emerging Pathogens
 - CTAT/Hemachemistry
 - Newborn Screening
 - Environmental Sciences
 - Laboratory Improvement

Core Functions of a Public Health Laboratory



- **Disease Prevention, Control and Surveillance**
- **Integrated Data Management**
- **Reference and Specialized Testing**
- **Environmental Health and Protection**
- **Food Safety**
- **Laboratory Improvement and Regulation**
- **Policy Development**
- **Public Health Preparedness and Response**
- **Public Health Related Research**
- **Training and Education**
- **Partnerships and Communication**

State Public Health Laboratory System



Emergency Response

Bioterrorism & Emerging Pathogens (BTEP)

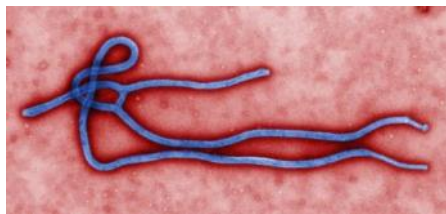
Routine and Emergency Testing

Local health, law enforcement, hospital and sentinel labs

Select agents and toxins

4 to 8 hours turn-around-time

Training & Outreach



Chemical Terrorism and Threat (CTAT)

Created in 2002 to respond to chemical acts of terrorism

Variety of testing technologies

Multiple Targets

Cyanide

Heavy Metals

Volatile organic compounds

Fentanyl and synthetic drugs



CTAT/Hemachemistry

Blood lead testing

80K specimens/year

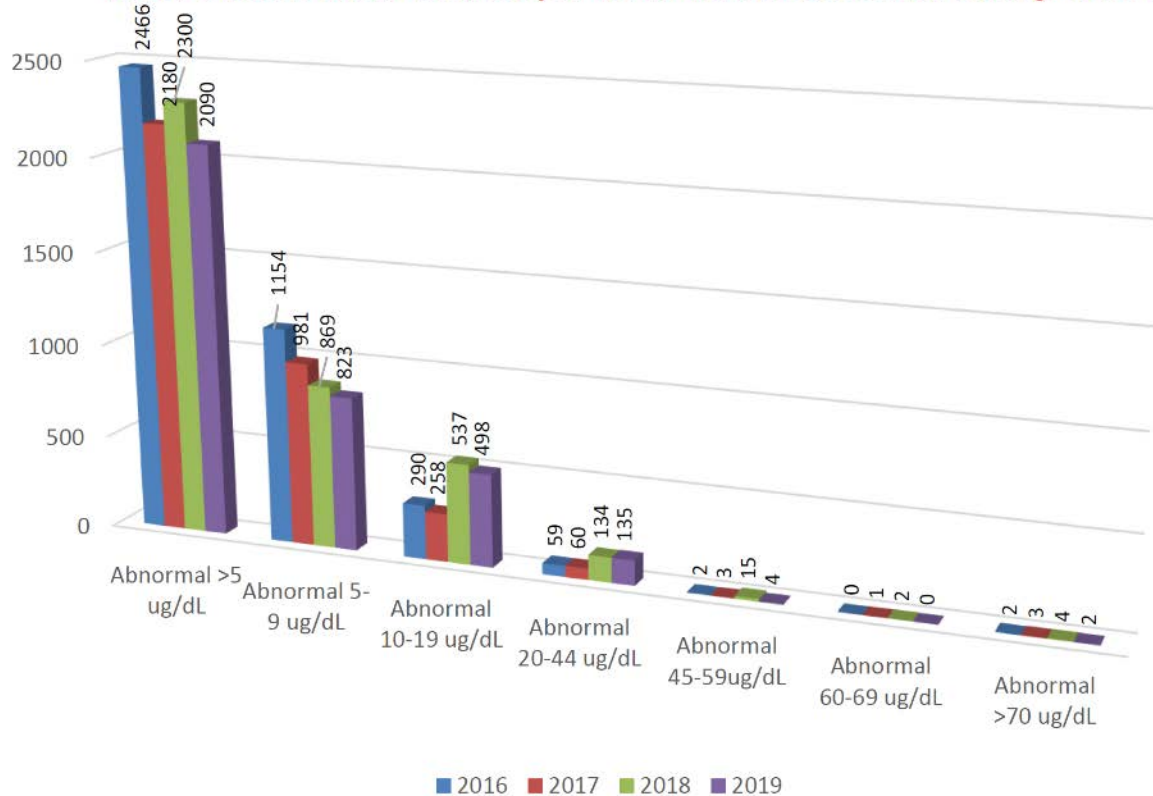
Children evaluated at 12 & 24 months

Prenatal lead testing

>5 $\mu\text{g}/\text{dL}$



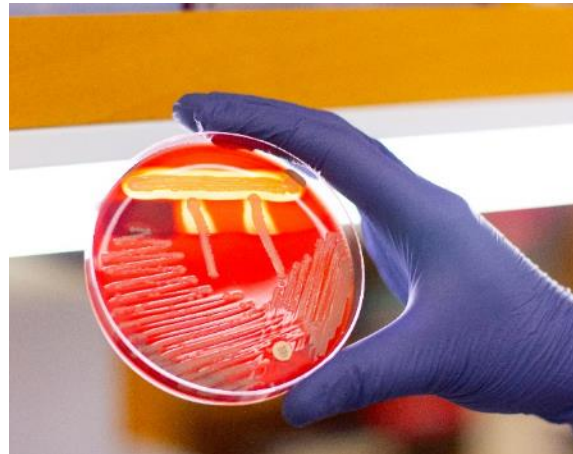
North Carolina State Laboratory of Public Health Blood Lead Testing 2016-2019

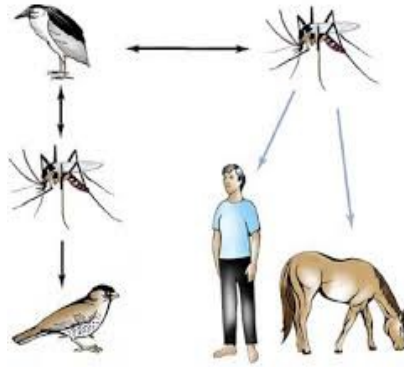


Microbiology

Clinical and reference testing

- Special bacteriology
- Enterics
- Atypical
- Parasites
- Mycology
- Mycobacteriology





Highest volume testing unit

HIV & STIs

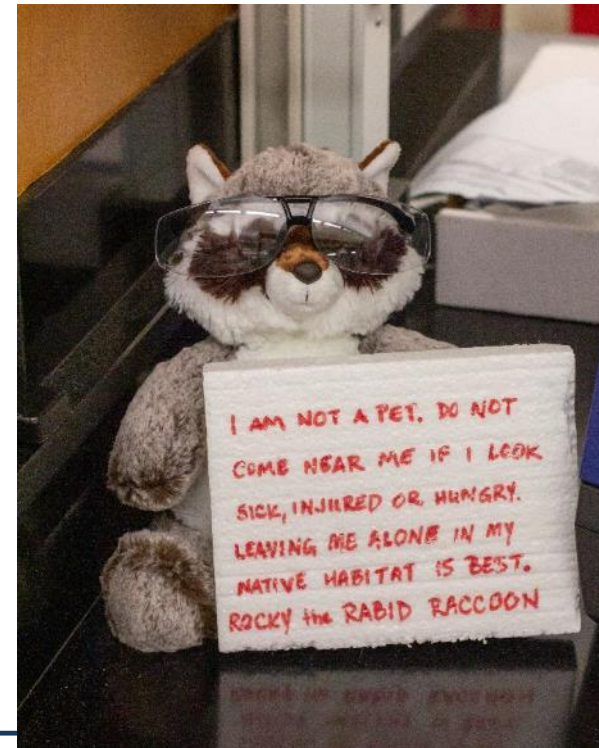
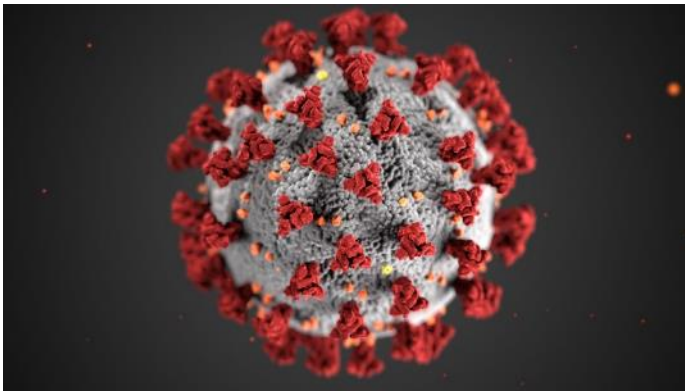
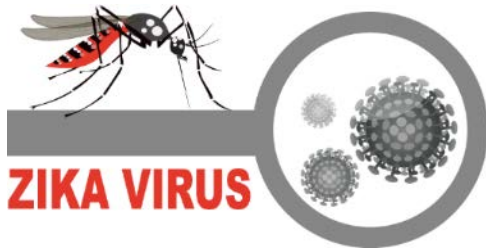
Rabies

Respiratory Pathogens

MMR

Hepatitis

Vector-borne diseases



Molecular Epidemiology

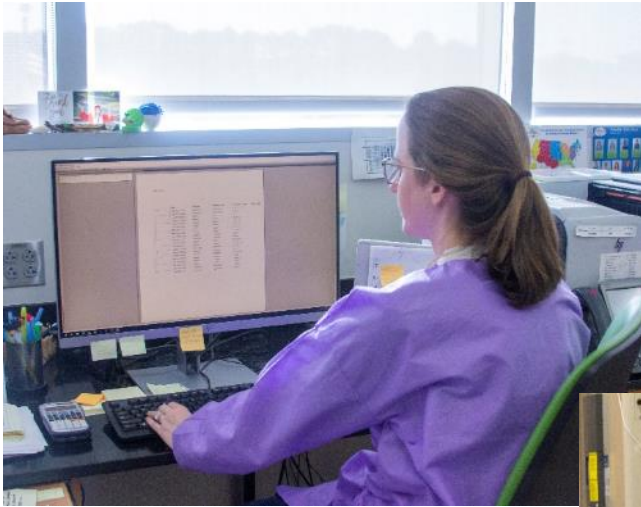
Molecular surveillance/characterization

E. coli, *Salmonella*, *Listeria*

Multiple critical partnerships

Cross-training in BTEP

Identify antibiotic resistance



Environmental Sciences

Radiologic Testing

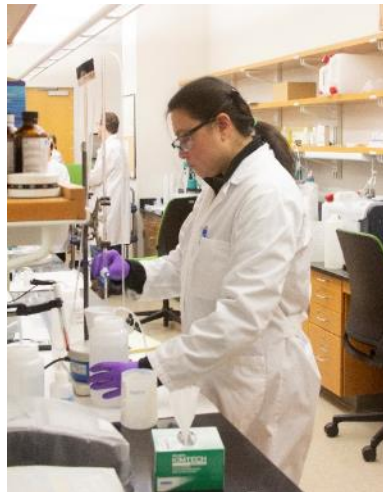
Environmental Lead

FDA Grade A milk testing

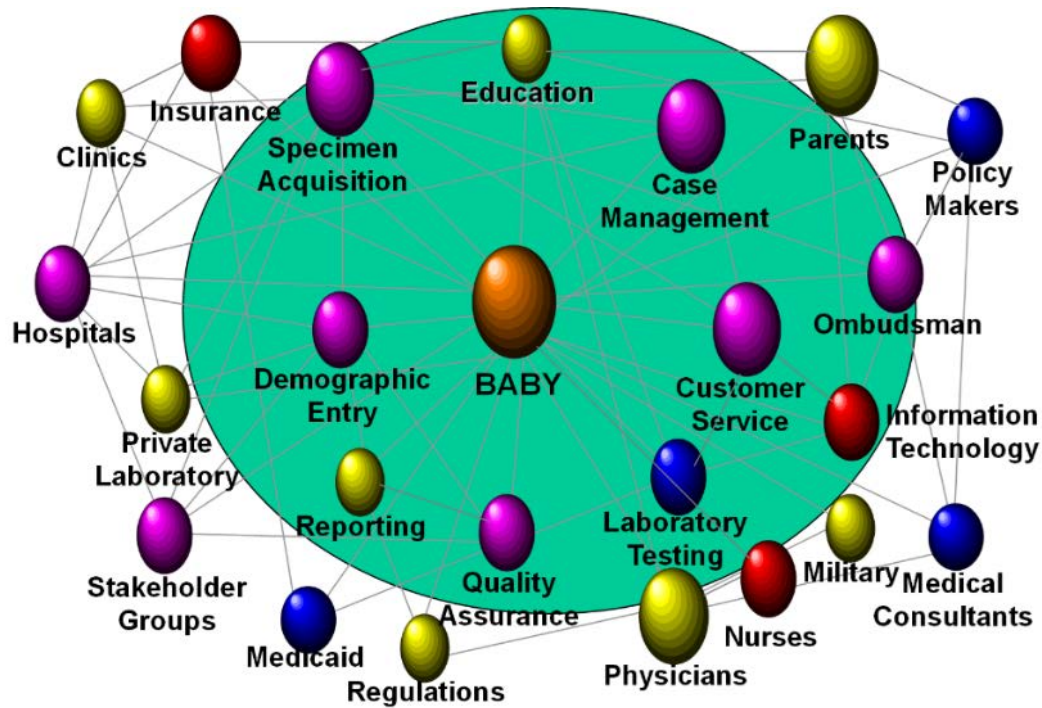
- Antibiotic residues
- Pasteurization
- Certification for external laboratories

Safe Drinking Water Act

- Certification for external laboratories
- 50% of NC uses well water
- Total Coliform, Metals, Mineral, Pesticides, Herbicides, Petroleum product, Volatile organic compounds



Newborn Screening



125,000 babies per year
>50 disorders identified

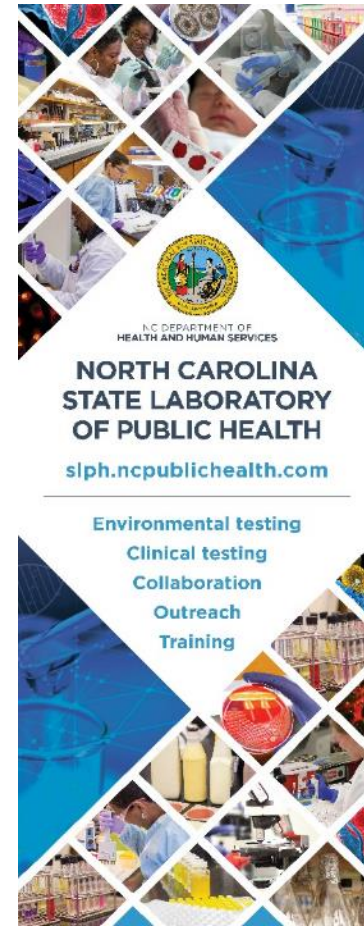


Newborn Screening



Laboratory Improvement & Outreach

- Consultation and leadership
- Ensure regulatory compliance & provide technical services
- Continuing education opportunities
- Quality control
- Provide microbiological stock
- Advocate for laboratories



Format	Number Presented	Number of Participants	Continuing Education Units Provided
Workshop/Live Seminar	48	1164	4,308
Webinars	92	879	916
Online Classes	10	1122	1,925

Improving Health for All Citizens

Equality



Equity



Justice



- **Serve the entire population**
- **Testing that focuses on communities who are largely underserved/under-resourced**
- **Learning what our partners and customers need/want**

Partnerships


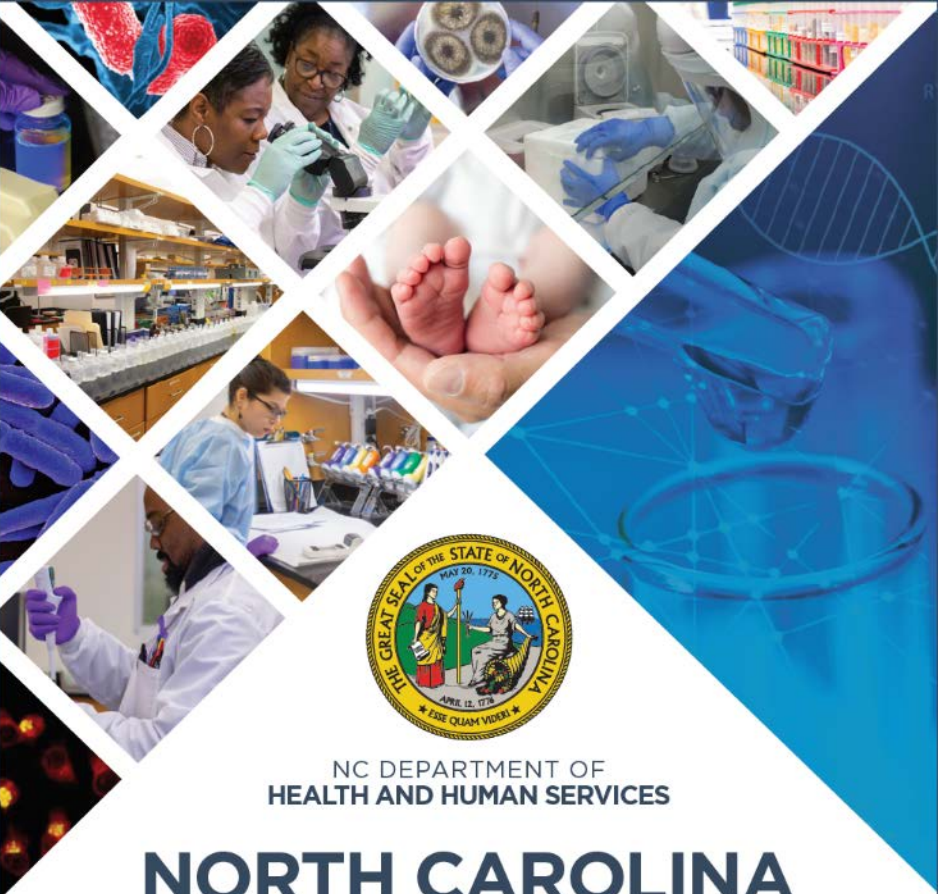


Diagnostic
Laboratories



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